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Plaaterkill Clove. In fact in all directions this region is rich in mosses, hepatics and lichens, and the enthusiastic botanist may for weeks revel in a succession of profitable trips afield. Germantown, Pa.

ADDITIONS TO THE LICHEN-FLORA OF SOUTHERN
CALIFORNIA. No. 5.

H. E. HASSE.

Caloplaca erythrella (Ach.) var. **rubescens** (Ach.) comb. nov. *Lecanora erythrella* Ach. var. *rubescens* Ach. in Ach. Li. Un. 402, 1810. *Lecanora aurantiaca* Lightf. var. *rubescens* Schaer. in Leight, Li. Fl. Gr. Bri. 3d ed. 207, 1879.

Subsp. *Lecanora erythrella* Nyl. f. *rubescens* Nyl. in Crombie Br. Li. 347. 1894.

Thallus light clay colored, effuse, almost disappearing, with KHO crimson. Forming small patches almost covered by the crowded apothecia, these are sessile, small, 0.25 to 0.5 mm. in diameter, congregated into 3 to 4 mm. wide groups; disk is orange, mostly flat with a whitish, thin, thalline margin, with KHO purple. Epithecium subcontinuous, yellow; thecium colorless, 56 μ to 60 μ high; paraphyses loosely coherent; hypothecium colorless; asci inflated clavate; spores in 8-s, ellipsoid and oblong-ellipsoid, polari-bilocular, an isthmus absent or in some spores faintly discernable, 16 μ to 23 μ long, 8 μ to 9.5 μ thick. Hym. Gel. with Iod. blue, with KHO crimson.

On argillaceous rocks near the Soldiers Home, collected in 1900.

LECANORA THAMNOPLACA Tuck in Tuck. Syn. I. 183. 1882.

Thallus thick, pale buff squamules, imbricated, entire or lobulated at the circumference toward the center more erect, flattening at the top and somewhat subfruticulose; both the upper and lower surface corticated; apothecia numerous, innate, from 0.5 to 2 mm. wide, disk flat to lightly convex, dark brown, smooth to papillate; epithecium continuous, red-brown; thecium colorless, 80 μ to 88 μ high; paraphyses coherent, stout, septate; hypothecium colorless; asci inflated clavate, 8-spored; spores ovoid 8 μ to 11 μ long, 7 μ to 8 μ thick. Hym. Gel. with Iod. indigo blue, soon changing to sordid grayish-brown; spermogones not seen.

On granitic and igneous rocks near Little Lake, Inyo County at 1350 meters elevation. Collected in April, 1910.

Placynthium nigrum (Huds.) S. Gray subsp. **P. psotinum** (Cromb.) comb. nov.

Pannaria psotina (Ach.) in Leight. Li. Fl. Gr. Bri., 3d ed. 156. 1879.

Pannaria nigra Nyl. Subsp. *psotina* Cromb in Cromb. Br. Li. 343 1894.

Thallus coralloid crustaceous, similar in color and form to the type, though less robust and the apothecia also smaller 0.4 to 0.5 mm. in width. The spores are ovoid, 13 μ to 15 μ long, 7 μ to 8 μ thick, three and four-locular, the loculi often slightly irregular in size and form.

On calcareous rock, North Fork of the Matilija Cañon, Ventura County. Collected in April, 1903.

Biatorella terrena, n. sp.

Thallus crustaceous, of small, flat, contiguous and imbricate squamules, the largest lobulated, not exceeding 1 mm. in width, mostly smaller, round and entire, of a sombre olive-green color: hypothallus indistinct. Apothecia sessile, 0.5 to 1 mm. in diameter, disk persistently flat, brown-black, thalline margin entire, slightly elevated. Epithecium continuous, red-brown, gradually paling downward; thecium 76μ to 96μ high, colorless or here and there with tinges of brown extending downward from the epithecium; paraphyses slender, compact coherent, not septate, a few forked below the tips; hypothecium sordid pallid-brownish, subtended by a thin gonidial layer; asci saccate or subventricose, the membrane thickened above; spores numerous, minute, oblong, 3μ to 3.5μ long, 1μ thick. Hym. Gel. with Iod. handsome blue, the epithecium not changing color.

On earth between stones, and at base of rocks. Type locality at "Squirrel Inn," North Fork of the San Gabriel Cañon, Los Angeles County, at 1300 m. alt., July, 1901. Type deposited in herb. Hasse.

The following species, not collected in the state, may yet be found in its south-eastern part:

Acarospora peltata n. sp.

Thallus of scattered or contiguous squamules, dirty cream color to whitish, broadly peltately affixed, 1.5 to 3.5 mm. wide, undulate and lobate in outline, the smaller entire, the upper surface pulverulent, KHO—Ca (Cl. O) 2—, radiately or irregularly fissured. Apothecia solitary, rarer several in a squamule, immersed-urceolate, small, at last superficial and enlarging to 0.6 mm. in diameter, disk brown-black, naked or pruinose, the thalline margin thin, fissured, when moistened becoming turgid and elevated above the thalline surface; upper and free lower surface of thallus pseudo-membraneous corticate, composed of small cells. Epithecium subcontinuous, grayish-yellowish or light yellowish-brown; thecium colorless, 140μ to 180μ high; paraphyses coherent and adglutinated at the tips, not thickened nor colored; hypothecium pallid; asci subventricose and saccate, 128μ to 140μ long, 28μ to 30μ thick, the upper part of membrane thickened. The numerous, oblong and oblong-ellipsoid, colorless, simple spores, 6μ to 10μ long, 2.5μ to 3μ thick. Hym. Gel. with Iod. blue soon turning sordid greenish-brownish, the hypothecium retaining the blue stain longer than the other structures.

On sandstone. The type locality near Adamana, Arizona. June, 1904. Type in herb. Hasse.

Caloplaca verrucosa n. sp.

Thallus graphite colored; forming small patches of loosely aggregated, uniform verrucae, the surface delicately rimose, no reaction with KHO or with Ca (Cl. O) 2.; hypothallus black, indistinct. Apothecia sessile, disk blackish, flat with a subturgid thalline margin; epithecium subcontinuous, blue-gray; thecium 64μ to 68μ high, colorless; paraphyses medium stout, thickened and septate above, with a globular faintly colored head; hypothecium pale resting upon a gonidial layer; asci oblong, 8-spored; spores simple

and polari-locular, 12μ to 19μ long, 6μ to 9μ thick, oblong-ellipsoid, the loculi approximate, the smaller spores simple and the endospore slightly constricted indicating the future septation, or these are distantly polari-locular, with or without a connecting tube, epithecium and cortex of thallus stained violet with KHO.

On sandstone. Type locality near Adamana, Arizona. June, 1904.
Type in herb. Hasse. Sawtelle, California.

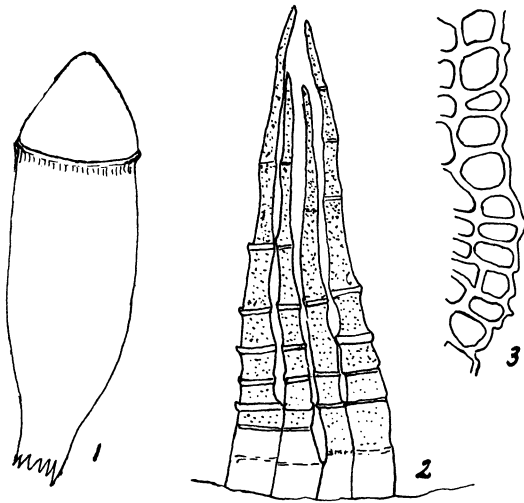


PLATE II. *Trichodon borealis* n. sp.

- Fig. 1. Moistened capsule $\times 50$.
Fig. 2. Section of peristome $\times 270$.
Fig. 3. Section of base of lid $\times 270$.

Drawn by R. S. WILLIAMS